

IN THE TITLE

Please amend the title of the subject application, wherever that title may appear,

Declaration and Assignment excepted, as follows:

METHOD AND DEVICE FOR MOUNTING DRESSINGS ~~PACKING~~ ONTO THE CYLINDER OF
A PRINTING PRESS

IN THE SUBSTITUTE SPECIFICATION

Please cancel paragraphs 003, 006, 020, 021, 025, 026, 028 and 032 of the Substitute Specification filed with the application. Please replace those cancelled paragraphs with replacement paragraphs, also 003, 006, 020, 021, 025, 026, 028 and 032, all as follows.

[003] A method and an arrangement for the automatic feeding of a printing plate to a plate cylinder, or for the removal from a plate cylinder of a rotary printing press is known from DE 39 40 795 A1. That method for the automatic feeding of a printing plate to a plate cylinder of a rotary printing press, in which the plate cylinder has, inter alia, assemblies for clamping and for bracing or tensioning the printing plate, provides for the printing plate to be placed into a storage chamber of printing plate feeding or removal device. The plate ~~The plate~~ cylinder is rotated into a plate feeding position, and the printing plate is conducted to a clamping device of the plate cylinder by the use of a number of transport rollers. The above-identified method for the automatic removal of a printing plate from a plate cylinder of a rotary printing press, in which the plate cylinder has, inter alia, assemblies for unclamping and releasing the printing plate, is distinguished in that the plate cylinder is initially rotated forward into a printing plate release position. A clamping flap for grasping a printing plate leading end is then opened. The plate cylinder then rotates backward, and a clamping flap for grasping a printing plate starting end is opened. The printing plate is then conducted to a storage chamber of a printing plate feeding or removal device by the use of a number of transport rollers. The device for performing the above-described method has at least one transport roller embodied as a drive roller and one embodied as a pressing roller, and wherein the pressing roller can be placed against the drive roller. In addition, various actuating devices, a pivotably seated pressing roller for pressing the printing plate against the plate cylinder, as well as ejection fingers, can be provided. The ejection fingers can have tips, which are arranged so that they can be pivoted into the periphery

of the plate cylinder. Also, the storage chamber of the printing plate feeding or removal device can be seated, pivotable around a joint.

[006] EP 0 734 859 A1 describes an arrangement for changing printing formes. For changing printing formes, a printing forme loading unit pivots out of a vertical position of rest against a holding element, which is embodied as a gripper. For mounting printing formes, the holding element grasps a fresh printing forme kept ready in the printing forme loading unit and performs, together with the grasped printing forme, a pivot movement by the ~~use of~~ use of an actuated lift cylinder. In this way, the printing forme, which is seated straight in a printing forme supply compartment, is lifted by its front area by the pivoting movement of the holding element, so that the leading end of the printing forme hangs down. The curved printing forme grasped by the holding element is pivoted by the holding element, with its leading end against a forme cylinder, in such a way that a suspension leg, which is formed at the leading end of the printing forme, can drop into a channel that is formed in the forme cylinder, which channel has a proportionally large opening width in comparison with the diameter of the forme cylinder.

[020] Referring initially to Fig. 1, dressing 01, which is configured as a plate-shaped printing forme 01, or as a support plate supporting a printing blanket, has a substantially rectangular surface of a length L and a width B. The length L can assume, for example, a measured values between 400 mm and 1300 mm, and the width B has a measured values, for example, between 280 mm and 1500 mm. The generally rectangular surface has a support side, called support side or surface 02 in what follows, with which support side or surface 02, in the dressing mounted state, the dressing 01 rests on a surface area 07 of a cylinder 06, as seen in Fig. 2. The back or inverse of the support surface 02 is a work surface which, in the case in which the ~~which the~~ dressing 01 is embodied as a printing forme 01, is provided with a printing image, or which can at least be provided with a printing image. The dressing 01 has two oppositely

located ends 03, 04, which delimit the support surface 02. Angled or beveled suspension legs 13, 14 extend from dressing ends 03, 04 respectively, and each such leg 13, 14 preferably extends entirely, or at least partially, over the width of the dressing 01. The support surface 02 of the dressing is flexible at least along the length L and can be matched to the curvature of the surface 07 of a cylinder 06, as seen in Fig. 2, when the dressing 01 is being fastened on a surface area 07 of a cylinder 06 of a printing press. In the mounted state of the printing forme, the length L of the support surface 02 thus extends in a direction of the circumference of the cylinder 06, while the width B of the support surface 02 extends in the axial direction of the cylinder 06. In actual use, the measurement of the width B of dressing 01, in particular, varies within defined predetermined tolerance limits, since the original width B of the dressing 01 is typically reduced by effecting a trimming of at least one of the longitudinal sides of the dressing 01. This trimming may be done, for example, for adjusting a position of a printing image on the working surface of the dressing 01 to a defined distance measurement with respect to at least one of the long sides of the dressing 01. Here, the tolerance limits lie, for example, within a range between fractions of a millimeter and up to a few millimeters. Thus, the width B of the dressing 01 can differ from other identical dressings 01 used on the same cylinder 06 within the permissible tolerance limits.

[021] As represented in Fig. 2, the suspension legs 13, 14 of the dressing 01 are fastened by the provision of a holding device. Such a holding device is conventionally arranged in a channel 08, and wherein, as a rule, the channel 08 extends in a axial direction in relation to the cylinder 06. An end 03 of the dressing 01, which end 03 is aligned in the production direction P of the cylinder 06, is called its leading end 03, while the oppositely located end 04 is referred to as the trailing end 04 of the dressing 01. At least the ends 03, 04 of the dressing 01, with the suspension legs 13, 14 formed thereon, consist of a rigid, such as a metallic material, and particularly, for example, of an aluminum alloy. A thickness D of the material of the dressing 01,

as seen in ~~Fig. 1~~ ~~in Fig. 1~~, or the thickness D of at least the suspension legs 13, 14 is customarily ~~a customarily~~ a few tenths of a millimeter, for example is 0.2 mm to 0.4 mm, and preferably is 0.3 mm. Thus, the dressing 01, as a whole, or at least its ends 03, 04, consists of a dimensionally stable material. The ends 03, 04 of dressing 01 can be permanently deformed by bending against a material-specific resistance.

[025] The cylinder 06, which has hereinabove been described by way of example, can be structured in such a way that several, preferably identical dressings 01 can be arranged on its surface area 07. If the cylinder 06 is configured as a forme cylinder, it can be covered, in its axial direction with ~~direction, with~~, for example, six side-by-side arranged plate-shaped printing formes 01. It can also be provided that more than one dressing 01 which can be applied to the cylinder 06 in the direction of its circumference. For example, two channels 08, each extending axially with respect to the cylinder 06 and each having associated openings 09, can be provided, which two channels 08 are arranged, offset by 180° with respect to each other, on the circumference of the cylinder 06. With this coverage of the cylinder 06 by two dressings 01 which are arranged one behind the other along the cylinder's circumference, a suspension leading leg 13 of a leading end 03 of one dressing 01 is fastened in the first channel 08, while a suspension trailing leg 14 of a trailing end 04 of the same dressing 01 is fastened in the other channel 08. This correspondingly ~~This correspondingly~~ applies to the remaining dressing, or dressings, 01 arranged on this cylinder 06. Also, the dressings 01, which may be arranged side-by-side in the axial direction of the cylinder 06, can be arranged offset with respect to each other, for example individually or in groups each by one-half the length L of the dressing 01. This, however, requires that further channels 08 with associated openings 09, or at least partial lengths thereof, have been cut into the cylinder 06 and are arranged, for example offset by 90° with respect to the two previously mentioned channels 08 and openings 09, along the circumference of the cylinder 06.

[026] A method for mounting a flexible dressing 01 on a cylinder 06 of a printing press, in accordance with the present invention, will be described in what follows. The dressing has a leading end 03 and a trailing end 04 in relation to the production direction P of the cylinder 06, as seen in Fig. 2-3. A suspension leg 13 is formed at least at the leading end 03 of the dressing 01. This suspension leg 13 is beveled at an opening angle α_1 of maximally 90° , and preferably of 45° , with respect to the extended length L of the dressing 01. At least one, preferably slit-shaped opening 09 with a first edge 16 and with a second edge 17, in the production direction P of the cylinder 06, is provided in the cylinder 06. These edges 16, 17 preferably extend parallel with each other in the axial direction of the cylinder 06. The method in accordance with the present invention is distinguished because the leading end 03 of the dressing 01 is fed, preferably tangentially, in the cylinder's production direction P, to the cylinder 06 preferably by the use of a pushing force that is preferably acting at the trailing end 04 of the dressing 01. The suspension leg 13 at the dressing leading edge 03 is placed against the cylinder 06 behind the second, trailing edge 17 of the opening 09, so that, in the course of a rotation of the cylinder 06 in its production direction P, the suspension leg 13 formed at the dressing leading edge 03 extends into the opening 09, as a result of a radial force RF acting on the leading end 03, and directed toward the cylinder 06. Suspension leading leg 13 is hooked on the first edge 16 preferably by being positively connected there. The pushing force used for conveying the dressing 01 is advantageously a force acting in the plane of the dressing 01 in the mounting direction M of the latter.

[028] In addition to the use of the force FG of the weight of the dressing 01, or as an aid to it, the leading end 03 of dressing 01 can be simply prestressed, as seen in Fig. 04, so that the suspension leg 13, formed at the leading end 03 of the dressing 01, springs into the opening 09 because of a restoring moment RM directed toward the cylinder 06. This occurs as soon as the opening 09 of the cylinder 06, and the contact line 27 of the suspension leg 13 with the surface

area 07 of the cylinder 06, are located directly opposite each other as a result of a relative movement between the dressing 01 and the cylinder 06, which relative movement takes place, in particular, by rotation of the cylinder 06 in the production direction P.

[032] A device for executing the above-described method will now be explained by way of an example of a web-fed offset jobbing printing press with, for example, an upright rubber- against-rubber printing group in 4-cylinder construction and with a horizontal guidance of a material 46 to be imprinted, such as a paper web 46, as depicted schematically in Fig. 5. In this example, a first pair of cylinders 31, 32 is provided, which first pair of cylinders 31, 32 roll off on each other underneath the paper web 46 and consist of a forme cylinder 31 and a rubber blanket cylinder 32. A second pair of cylinders 33, 34, which also roll off on each other, are arranged above the paper web 46 and consist of a forme cylinder 33 and a rubber blanket cylinder 34. The paper web 46 is conducted between the two rubber blanket cylinder 32, 34, which are placed against each other. Preferably several, for example five or six, separate print positions for use in the application of five or six differently colored ink, are provided in the printing press. In what follows, it is assumed for the sake of simplicity, and without restricting the invention, that at least the forme cylinders 31, 33 are identical in their size and in their structural type.